

WHAT IS CLAIMED IS:

1. A method for correcting a video for undesirable camera motion rate comprising detecting the existence of an undesirable camera motion rate represented in a first sequence of video frames comprising a motion picture, and retiming frames of said first sequence of video frames in accordance with a desirable camera motion rate to produce a retimed sequence of frames.
2. A method as recited in claim 1 wherein the undesirable camera motion is detected by detecting the rate of camera motion from said first sequence of video frames.
3. A method as recited in claim 2 wherein the camera motion is detected by generating dense motion vector fields representing motion of image elements at the frames of said first sequence, and determining a camera motion from said dense motion vector fields.
4. Method as recited in claim 1 wherein a new sequence of frames are produced at a standard video frame rate by interpolating new frames between the frames of said retimed sequence.
5. A method as recited in claim 4 further comprising generating dense motion vector fields between the frames of said original sequence, and wherein said new frames are interpolated between the frames of said retimed sequence using said dense motion vector fields.
6. A method as recited in claim 1 further comprising determining the presence of a soundtrack in said motion picture and resynchronizing said soundtrack with the timing of the frames in said retimed sequences.
7. A method as recited in claim 1 wherein said camera motion is the panning of said camera.

8. A method as recited in claim 1 wherein said camera motion is the zooming of said camera.
9. A method as recited in claim 1 wherein the existence of an undesirable camera motion rate is detected by determining that the camera motion exceeds at least one guideline.
10. A method as recited in claim 1 further comprising generating a new sequence of frames comprising new frames interpolated at predetermined times between the frames of said retimed sequence.
11. A system for correcting a video for undesirable camera motion rate comprising a video motion picture source, and video processor connected to receive video frames representing a motion picture from said video source, said video processor operating to identify a first sequence of frames in said video in which the camera motion exceeds at least one guideline, and to retime the frames in said sequence to mitigate the effect of the guideline being exceeded, whereby a retimed sequence of frames is provided.
12. A system as recited in claim 11 wherein said video processor detects camera motion from said first sequence of video frames to determine whether the camera motion exceeds said at least one guideline.
13. A system as recited in claim 12 wherein said video processor determines the camera motion represented in said first sequence of frames by detecting a dense motion vector field between the frames of said sequence.
14. A system as recited in claim 11 wherein said video processor operates to produce a new sequence of frames occurring at a standard video frame rate, said new sequence comprising new frames interpolated between the frames of the retimed sequence of frames.

15. A system as recited in claim 14 wherein said video processor generates dense motion vector fields representing the motion between the frames of said first sequence and wherein said new frames are interpolated between the frames of said retimed sequence using said dense motion vector fields.

16. A system as recited in claim 11 wherein said video motion picture contains a soundtrack and wherein said video processor resynchronizes said soundtrack in accordance with the timing of the frames of said retimed sequence.

17. A system as recited in claim 11 wherein said camera motion comprises camera panning.

18. A system as recited in claim 11 wherein said camera motion comprises camera zooming.

19. A system as recited in claim 11 wherein said video processor operates to generate a new sequence of frames comprising new frames produced by interpolation between the frames of said retimed sequence.